

INTERNATIONAL SEARCH REPORT

International Application No

P. IB 03/05092

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C12N15/82 A01H5/10

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12N A01H

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, BIOSIS, EMBASE, EMBL, Sequence Search

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|--|------------------------|
| X | WO 99/03985 A (US AGRICULTURE) 28 January 1999 (1999-01-28) the whole document | 1,2, 4-13, 15-20 |
| A | KRISHNAMURTHY K ET AL: "Expression of wheat puroindoline genes in transgenic rice enhances grain softness" NATURE BIOTECHNOLOGY, NATURE PUBLISHING, US, vol. 19, no. 2, February 2001 (2001-02), pages 162-166, XP002229773 ISSN: 1087-0156 the whole document ----- -/- | 1,2, 4-13, 15-20 |

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *&* document member of the same patent family

Date of the actual completion of the international search

26 October 2004

Date of mailing of the international search report

11.11.2004

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
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| A | WO 00/08161 A (TAKAIWA FUMIO ; UTSUMI SHIGERU (JP); BIO ORIENTED TECHNOLOGY RESEAR (J) 17 February 2000 (2000-02-17) the whole document | 1,2, 4-13, 15-20 |
| A | PATENT ABSTRACTS OF JAPAN vol. 2000, no. 24, 11 May 2001 (2001-05-11) - & JP 2001 204284 A (ALLERGEN FREE TECHNOLOGY KENKYUSHO:KK), 31 July 2001 (2001-07-31) abstract | 1,2, 4-13, 15-20 |
| A | SHIMONI ET AL: "A recombinant protein of two high molecular weight glutenins alters gluten polymer formation in transgenic wheat" JOURNAL OF BIOLOGICAL CHEMISTRY, AMERICAN SOCIETY OF BIOLOGICAL CHEMISTS, BALTIMORE, MD, US, vol. 272, no. 24, 13 June 1997 (1997-06-13), pages 15488-15495, XP002104385 ISSN: 0021-9258 the whole document | 1,2, 4-13, 15-20 |
| A | SHAN LU ET AL: "Structural basis for gluten intolerance in Celiac Sprue" SCIENCE (WASHINGTON D C), vol. 297, no. 5590, 27 September 2002 (2002-09-27), pages 2275-2279, XP002294431 ISSN: 0036-8075 cited in the application the whole document | 1,2, 4-13, 15-20 |
| A | SKERRITT J H ET AL: "Antigenicity of wheat prolamins: Detailed epitope analysis using a panel of monoclonal antibodies" JOURNAL OF CEREAL SCIENCE, ACADEMIC PRESS LTD, XX, vol. 32, no. 3, November 2000 (2000-11), pages 259-279, XP002188676 ISSN: 0733-5210 the whole document | 1,2, 4-13, 15-20 |

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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| A | ZHANG Z ET AL: "The bean seed storage protein beta-phaseolin is synthesized, processed, and accumulated in the vacuolar type-II protein bodies of transgenic rice endosperm" PLANT PHYSIOLOGY, AMERICAN SOCIETY OF PLANT PHYSIOLOGISTS, ROCKVILLE, MD, US, vol. 109, no. 3, 1 November 1995 (1995-11-01), pages 777-786, XP002096844 ISSN: 0032-0889 the whole document | 1,2, 4-13, 15-20 |
| E | WO 03/102128 A (RIGAU LLOVERAS JUAN ; TALAVERA BARO DAVID (ES); TORNE CUBIRO JOSE MARI) 11 December 2003 (2003-12-11) the whole document | 3-7, 14-21 |
| Y | WATANABE M ET AL: "CONTROLLED ENZYMATIC TREATMENT OF WHEAT PROTEINS FOR PRODUCTION OF HYPOALLERGENIC FLOUR" BIOSCIENCE BIOTECHNOLOGY BIOCHEMISTRY, JAPAN SOC. FOR BIOSCIENCE, BIOTECHNOLOGY AND AGROCHEM. TOKYO, JP, vol. 58, no. 2, 1 February 1994 (1994-02-01), pages 388-390, XP000435777 ISSN: 0916-8451 the whole document | 3-7, 14-21 |
| Y | EP 1 164 194 A (ACADEMIA SINICA) 19 December 2001 (2001-12-19) the whole document | 3-7, 14-21 |
| Y | EP 1 190 624 A (ENZYMES GMBH AB) 27 March 2002 (2002-03-27) page 1 - page 2 | 3-7, 14-21 |
| A | HUANG JIANMIN ET AL: "Expression of natural antimicrobial human lysozyme in rice grains" MOLECULAR BREEDING, vol. 10, no. 1-2, September 2002 (2002-09), pages 83-94, XP002302463 ISSN: 1380-3743 the whole document | 3-7, 14-21 |

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| C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT | | |
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| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
| A | TSENG C -S ET AL: "Physicochemical properties of wheat flour dough modified by microbial transglutaminase" JOURNAL OF FOOD SCIENCE, vol. 67, no. 2, March 2002 (2002-03), pages 750-755, XP008037713 ISSN: 0022-1147 the whole document | 3-7, 14-21 |
| A | ZHU Y ET AL: "MICROBIAL TRANSGLUTAMINASE - A REVIEW OF ITS PRODUCTION AND APPLICATION IN FOOD PROCESSING" APPLIED MICROBIOLOGY AND BIOTECHNOLOGY, SPRINGER VERLAG, BERLIN, DE, vol. 44, no. 3/4, 1995, pages 277-282, XP000878771 ISSN: 0175-7598 the whole document | 3-7, 14-21 |
| T | CAPELL T ET AL: "Producing transglutaminases by molecular farming in plants: Minireview article." AMINO ACIDS. JUL 2004, vol. 26, no. 4, July 2004 (2004-07), pages 419-423, XP002302462 ISSN: 0939-4451 the whole document | 3-7, 14-21 |

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Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/IB 03/05092

| Patent document cited in search report | | Publication date | Patent family member(s) | Publication date |
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